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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,349	12/30/2003	James Snape	4726-017	7807
24112	7590	01/21/2005		
COATS & BENNETT, PLLC P O BOX 5 RALEIGH, NC 27602			EXAMINER HYEON, HAE M	
			ART UNIT 2839	PAPER NUMBER

DATE MAILED: 01/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/748,349	<b>Applicant(s)</b> SNAPE ET AL.	
	<b>Examiner</b> Hae M Hyeon	<b>Art Unit</b> 2839	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the bracket having a plurality of threaded through-holes for predetermined positions must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

*Claim Objections*

2. Claim 21 is objected to because of the following informalities: The examiner suggests the applicant to delete the word “said” in front of “recesses” in claim 21, line 2 because claim 20 recites, “a recess,” which can be one or more recesses.

Appropriate correction is required.

*Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 5 and 15-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claim 5 recites, “said cable interface **may assume are disposed** within a range ...” It is not clear what is this phrase “may assume are disposed.” It seems that claim 5 is using two verbs.
- First, the phrase “**a to said robotic tool**” recited in claim 15, line 4 is not clear. Second, it is not clear where the too module is affixed to. It is clear from the drawings that the tool module is affixed to the master module. However, claims 15-19 do not recite this structural relationship.

5. Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a

gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: bracket, coupling interface and cable interface.

- From the drawings, it is clear that the coupling interface and the cable interface are fixed on the bracket. Although claim 1 recites that the coupling interface is in a fixed position with respect to the bracket and that the cable interface is moveable to a plurality of positions with respect to the bracket, the coupling interface and the cable interface do not have to be fixed on the bracket.
- According to the present specification, the bracket is used to mount the master and tool electrical connectors to the master and tool modules. Also, the cable connector is moveably mounted on the bracket. However, claims 9-16 do not recite the bracket. Although claims 17-19 recite the bracket, they do not recite the structural relationship between the bracket and the module connectors.
- Claims 15-19 do not recite the structural relationship between the bracket and the cable connector. Also, claims 15-19 do not recite the coupling interface for electrically coupling the master module with the tool module.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Derstine (6,213,782 B1).

Derstine discloses a multi-position electrical connector comprising a bracket 11, a coupling interface 12 in a fixed position with respect to the bracket 11, and a cable interface 20 moveable with respect to the bracket 11. The coupling interface 12 has a plurality of electrical contacts electrically connected with a plurality of electrical contacts of the cable interface 20. The cable interface 20 is rotatable about one of axes of the coupling interface within a range of 90 to 180 degrees of rotation. The only thing that Derstine does not disclose is the bracket being mountable to a robotic tool changer master or tool module.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the connector taught by Derstine such that it would be mounted to a robotic tool changer as taught by the instant invention since the instant invention does not provide any reason or a specific problem to be solved by having the connector to be mountable to the robotic tool changer. Therefore, it is an obvious design alternative to mount the connector of Derstine to the robotic tool changer.

8. Claims 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Derstine (6,213,782 B1) in view of English (1,649,951).

Claims 20-23 recite a set screw retaining member disposed in the bracket engaging with a plurality of recesses in the second connector to fix the second connector in one of a plurality of predetermined positions around the first connector. However, Derstine does not disclose a retaining member disposed in the bracket operative to engage with a recess in the cable interface

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(the second connector) to fix the second connector in one of a plurality of predetermined positions around the coupling interface (the first connector).

English discloses an adjustable connection comprising a member 1 having a plurality of recesses 5 and a member 2 having a plurality of projections 4 engages with the recesses 5 to retain the member 1 in one of a plurality of predetermined positions around the member 2.

Although, English does not use a setscrew, English solves the same problem. Thus, the use of the setscrew only deals with using a different device for solving the same problem.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the connector taught by Derstine such that it would have recesses and projections as taught by English to fix a rotating connector in one of a plurality of predetermined positions.

### *Conclusion*

**It is unnecessary, however, that inventions of references be physically combinable to render obvious an applicant's invention.** *In re Sneed*, 710 F.2d 1544, 1550, 218 USPQ 385, 389 (Fed. Cir. 1983). The test for obviousness is not whether the features of a reference may be bodily incorporated into the structure of another reference but what the combined teachings of those references would have suggested to those of ordinary skill in the art. *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871,881 (CCPA 1981).

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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US Patent No. 4,544,215 by Fritsch, US Patent No. 4,959,021 by Byrne, US Patent No. 5,022,861 by Aoto, US Patent No. 5,681,171 by Park, US Patent No. 6,093,028 by Yang, US Patent No. 6,821,134 B2 by Chen.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hae M Hyeon whose telephone number is 571-272-2093. The examiner can normally be reached on Mon.-Fri. (8:30-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tulsidas C Patel can be reached on (571) 272-2098. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hae M Hyeon  
Primary Examiner  
Art Unit 2839

hnh hnh

*Hae Moon Hyeon*